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Hepatitis C

Hepatitis C is a viral infection of the liver which had been referred to as parenterally[1] transm hepatitis" until identification of the causative agent in 1989. The discovery and characterizati virus (HCV) led to the understanding of its primary role in post-transfusion hepatitis and its t persistent infection.

HCV is a major cause of acute hepatitis and chronic liver disease, including cirrhosis[2] and live estimated 170 million persons are chronically infected with HCV and 3 to 4 million persons ar year. HCV is spread primarily by direct contact with human blood. The major causes of HCV i use of unscreened blood transfusions, and re-use of needles and syringes that have not beer

No vaccine is currently available to prevent hepatitis C and treatment for chronic hepatitis C persons in developing countries to afford. Thus, from a global perspective, the greatest impa burden will likely be achieved by focusing efforts on reducing the risk of HCV transmission fr [3]exposures (e.g. blood transfusions, unsafe injection practices) and high-risk behaviours (e.g

PATHOGEN

Hepatitis C virus (HCV) is one of the viruses (A, B, C, D, and E), which together account for t cases of viral hepatitis. It is an enveloped RNA virus in the *flaviviridae* family which appears t range. Humans and chimpanzees are the only known species susceptible to infection, with bo similar disease.

An important feature of the virus is the relative mutability of its genome, which in turn is pro propensity (80%) of inducing chronic infection. HCV is clustered into several distinct genotyp important in determining the severity of the disease and the response to treatment.

CLINICAL FEATURES OF ACUTE INFECTION

The incubation period of HCV infection before the onset of clinical symptoms ranges from 15 infections, the most common symptoms are fatigue and jaundice; however, the majority of c 70%), even those that develop chronic infection, are asymptomatic.

CHRONIC INFECTION AND CONSEQUENCES

About 80% of newly infected patients progress to develop chronic infection. Cirrhosis develo of persons with chronic infection, and liver cancer develops in 1% to 5% of persons with chr period of 20 to 30 years. Most patients suffering from liver cancer who do not have hepatitis evidence of HCV infection. The mechanisms by which HCV infection leads to liver cancer are also exacerbates the severity of underlying liver disease when it coexists with other hepatic liver disease progresses more rapidly among persons with alcoholic liver disease and HCV inf

MEANS OF TRANSMISSION

HCV is spread primarily by direct contact with human blood. Transmission through blood trar

In both developed and developing countries, high risk groups include injecting drug users, re
blood, haemophiliacs, dialysis patients and persons with multiple sex partners who engage ir

In developed countries, it is estimated that 90% of persons with chronic HCV infection are cu
injecting drug users and those with a history of transfusion of unscreened blood or blood pro

In many developing countries, where unscreened blood and blood products are still being use
transmission are unsterilized injection equipment and unscreened blood transfusions. In addi
traditional scarification and circumcision practices are at risk if they use or re-use unsterilize

PREVALENCE

WHO estimates that about 170 million people, 3% of the world's population, are infected witl
developing liver cirrhosis and/or liver cancer. The prevalence of HCV infection in some countı
Eastern Mediterranean, South-East Asia and the Western Pacific (when prevalence data are a
compared to some countries in North America and Europe.

Table 1: Hepatitis C estimated prevalence and number infected by WHO Region

WHO Region	Total Population (Millions)	Hepatitis C prevalence Rate %	Infected Population (Millions)
Africa	602	5.3	31.9
Americas	785	1.7	13.1
Eastern Mediterranean	466	4.6	21.3
Europe	858	1.03	8.9
South-East Asia	1 500	2.15	32.3
Western Pacific	1 600	3.9	62.2
Total	**5 811**	**3.1**	**169.7**

Source: Weekly Epidemiological Record. N° 49, 10 December 1999, WHO

DIAGNOSIS

Diagnostic tests for HCV are used to prevent infection through screening of donor blood and
clinical diagnosis and to make better decisions regarding medical management of a patient. I
commercially available today are based on Enzyme immunosorbant assays (EIA) for the dete
antibodies. EIAs can detect more than 95% of chronically infected patients but can detect on
infections.

A recombinant immunoblot assay (RIBA) that identifies antibodies which react with individua

or/the development of chronic liver disease.

TREATMENT

Antiviral drugs such as interferon taken alone or in combination with ribavirin, can be used fo persons with chronic hepatitis C, but the cost of treatment is very high. Treatment with inter in about 10% to 20% of patients. Interferon combined with ribavirin is effective in about 30% Ribavirin does not appear to be effective when used alone.

PREVENTION

There is no vaccine against HCV. Research is in progress but the high mutability of the HCV g vaccine development. Lack of knowledge of any protective immune response following HCV i vaccine research. It is not known whether the immune system is able to eliminate the virus. have shown the presence of virus--neutralizing antibodies in patients with HCV infection.

In the absence of a vaccine, all precautions to prevent infection must be taken including:

- Screening and testing of blood and organ donors;
- Virus inactivation of plasma derived products;
- Implementation and maintenance of infection control practices in health care settings sterilization of medical and dental equipment;
- Promotion of behaviour change among the general public and health care workers to injections and to use safe injection practices; andRisk reduction counselling for perso and sexual practices.

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